

4.11 Ewe Vowels

The formant values discussed here are the mean formant frequencies of the vowels produced by all dialects studied.

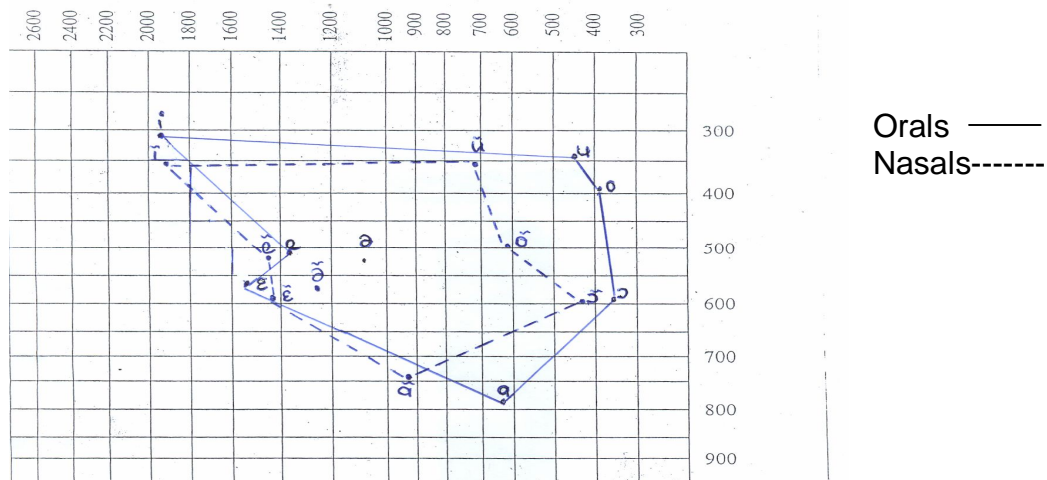


Figure 4.11 Formant plot of the mean values of the vowels of Ewe produced by five dialects

In Ewe, [i] is a little higher than [ĩ]. [e] is retracted from the front toward the center as compared to [ɛ]. Their nasalized counterparts [ẽ] and [ē] are around the point in the acoustic space just below [ɛ]. [ẽ] is a little lower, i.e. more open than [e]. There is no significant difference between these vowels (See table 4.11.1). This means that the differences in the quality of these vowels as produced by the Ewes are not statistically significant. The realization of [u], [o] and their nasalized ones are particularly highly close ($p < .930$ and $< .923$). This is an indication that the Ewe language speakers have difficulty differentiating between the productions of these vowels. The formant values of the Ewe vowels are presented in tables 4.11.1 and 4.11.2.

[ɔ] in Ewe is very open and back, just a little shifted from the peripheral as compared to [u] and [o]. [õ] is less back more open than [ɔ]. The vowel [ã] is a little higher and less back than [a] (See figure 4.11).

Table 4.11.1 Formant Frequency values of Ewe oral vowels in Hz

Vowels	i	e	ɛ	ə	a	u	o	ɔ
F1	308	506	564	520	790	348	396	547
F2 ¹	1952	1380	1566	1115	644	457	397	359

Table 4.11.2 Formant Frequency values of Ewe nasal vowels in Hz

Vowels	ĩ	ẽ	ɛ̃	ə̃	ã	ũ	õ	ɔ̃
F1	352	613	598	576	749	351	499	598
F2 ¹	1941	1462	1425	1272	926	714	603	439

Table 4.11.3 Paired sample test of difference of some vowels in the Ewe vowel system.

Vowel Pairs		e-ɛ	e-ə	ɛ-ə	ẽ-ɛ̃	ẽ-ə̃	ɛ̃-ə̃	u-o	ũ-õ
Difference in Hz.	F1	58	14	44	15	37	22	48	148
	F2 ¹	166	265	451	37	190	153	60	111
Significance		.308	.438	.534	.255	.378	.409	.930	.923